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Radish Production

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RADISH PRODUCTION

By S. R. Kostewicz, *horticulturist,* and J. Montelaro, *vegetable specialist* [1]

The radish is a member of the mustard family, which also includes cabbage, cauliflower, horseradish, kale, and turnip. It has been cultivated since the time of the ancient Egyptians and Greeks, and descriptions of it can be found in herbals and similar manuscripts written through the centuries. The radish, a popular home-garden vegetable, is of considerable commercial importance. Among the leading States in total production are Florida, California, Texas, Ohio, and New Jersey.

Climatic and Soil Requirements

The radish is a short-season crop that does best in cool weather. It will not tolerate extreme heat or drought. In the Southern States, it is produced commercially during fall, winter, and spring. In the Northern States, it is grown mainly during the spring and fall, with a limited amount grown during the summer months.

Radishes can be grown on practically all types of soil. However, the bulk of the commercial acreage is on organic (peat and muck) soils. Other light, easily worked, noncrusting, stone-free soils can be used successfully to grow radishes. The preparation of land for radish culture is similar to that for other root crops. It should be worked thoroughly to a depth of 6 to 8 inches (15 to 20 cm) for best results.

Types and Varieties

Radishes have been divided into three groups and have been given the somewhat misleading names of spring, summer, and winter radishes. This grouping is misleading because the spring and summer "types" can be grown successfully at other times of the year if the temperatures are favorable.

A more descriptive classification is one based on the shape of the root: round, oval, turnip-shaped, oblong, or long. The round group is the most important in the United States because it is widely grown. Radishes of the round group are fast growing (21 to 30 days) and lend themselves well to harvesting, topping, and mechanical packaging in consumer-sized plastic bags. Examples of varieties in this classification are as follows:

- Round.—Most of the important varieties in this group are red or red and white. However, there are round white and round black novelty varieties. Varieties are 'Cherry Belle' (red), 'Comet' (red), 'Scarlet Prince' (red), 'Sparkler' (red/white), 'Giant White Globe'

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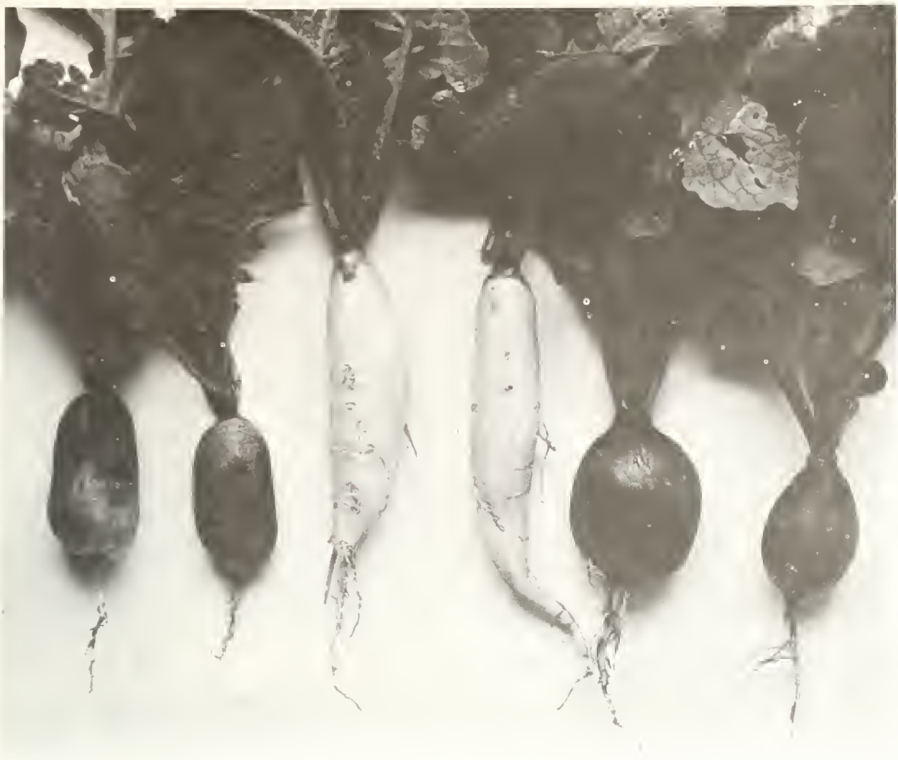
[1] Vegetable Crops Department, University of Florida, Gainesville, Fla. 32611



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Two radishes on left are "French Breakfast"; two in center are "Icicle": two on right are "Early Scarlet Globe."

(white), and 'Round Black Spanish' (black).

● Oval.—These are generally slightly longer than they are wide. Varieties are 'Early Scarlet Globe' —medium top (red), and 'Cavalier' (red).

● Turnip-Shaped.—These are generally slightly wider than they are long. Varieties are 'Scarlet Turnip White Tipped' (red/white), and 'Crimson Giant Forcing' (red).

● Oblong.—These are longer than they are wide and nearly cylindrical with a blunt rounded tip. Varieties are 'French Breakfast' (red/white), 'Chinese Rose Winter' (red), 'California Mammoth White' (white), and 'Chinese White Winter' (white).

● Long.—These are longer than they are wide, with a tapered tip. Varieties are 'Cincinnati Market' (red), 'Long Scarlet-Short Top' (red), 'White Icicle' (white), and 'Long Black Spanish' (black).

Cultural Considerations

Except for the large, slow-growing cultivars for specialty markets, commercially grown radishes are not hand-thinned. The use of sized seed and precision planters has decreased the need for this expensive practice.

Weeds can compete seriously with radishes for fertilizer nutrients and moisture and can be a problem in mechanical harvesting. Because of the short time the crop is in the ground, few herbicides are cleared for use on radishes and cultivation may be necessary. Cultivation should be shallow to prevent damage to the root system. Radishes should be cultivated frequently enough to destroy newly emerged weed seedlings. This can be done with wheel hoes, rolling cultivators, or blade-type implements.

Radishes require an abundance of moisture for best growth. Some form of irrigation is necessary during dry periods to insure continuous growth of the crop.

Harvesting and Handling

Radishes are harvested and topped by machine and taken to a packinghouse. Only a very small percentage of the commercial acreage is marketed as bunched radishes.

At the packinghouse, radishes are washed, precooled, graded, and bagged in consumer and bulk containers of various sizes. They are then placed in refrigerated storage and kept refrigerated until they reach the retail outlet.

Fertilizers

Since the growth period of radishes is short, fertilizer nutrients must be readily available. The amount of fertilizer that should be used varies with soil type and climatic conditions in the growing area. Some generalizations can be made to serve as guidelines. Organic fertilizers such as manures tend to release nutrients slowly and should be added well in advance of planting. When standard commercial fertilizers are used, they should contain the most readily available form of the nutrient elements. As a rule of thumb, 60 pounds (27 kg) of nitrogen, 80 pounds (36 kg) of P_2O_5, and 80 pounds (36 kg) of K_2O [1,000 lb (450 kg) of 6–8–8] per acre will give satisfactory results on mineral soils. The nitrogen may not be needed on organic soils during the warmer seasons of the year. Experience and judgment can be used to modify the rate for a particular location.

Seed and Seeding

Commercial acreage on organic soils is commonly planted in rows spaced 8 to 12 inches (20 to 30 cm) apart. Mechanical harvesters capable of handling three-to-eight-row beds lift, top, and convey the radishes into bulk trailers for transport to the packing area. The seeding rate ranges between 15 and 20 pounds per acre (6.75 to 9 kg/0.4 ha) depending upon row spacing. Most commercial growers precision plant sized seed to obtain good stand and uniform maturity.

Disease and Insect Enemies

Radishes are not affected seriously by foliar diseases because of the short growing period. However, a number of insects, such as aphids, root maggots, and flea beetles, can damage the crop. Up-to-date control recommendations can be obtained by contacting the local county or State Cooperative Extension Service or the U.S. Department of Agriculture.

Growing Radishes in the Home Garden

Radishes are among the easiest vegetables to grow in the home garden. Reasonable care should be given to preparing the soil before planting to make sure the seed bed is relatively free of stones, clods, and other debris. This will insure a uniform planting depth, which will result in more uniform germination and emergence. It also will allow the roots to develop uniformly in shape and size.

One ounce of radish seed contains about 2,000 seeds. Placed at 1-inch (2.5 cm) intervals, 1 ounce (28 g) is enough for 166 feet (4980 cm) of row. However, it is easier to plant the seed thickly and then thin the plants to stand following emergence. Thin shortly after emergence to prevent disruption of the root system of adjacent plants that are to be left in the garden. The distance that should be left between plants depends somewhat on the type of radish, but for the small round types the distance should be about 1 inch. One ounce of seed should be enough for about 50 to 60 feet (1500 to 1800 cm) of row in the garden.

The between-the-row spacing will depend upon garden design and the type of implements that will be used. A guideline is 12 to 18 inches (30 to 45 cm), which can be modified according to experience and situation.

A single planting of 50 to 60 feet will produce a substantial amount of radishes. Most gardeners prefer to have a continuous supply over the season rather than one single large harvest. To accomplish this, a few feet of row are planted at intervals of 7 to 14 days through the season. In this manner, a fresh supply can be harvested on a regular basis.

There are many varieties available to the home gardener. The selection of several different kinds (shape and color) can add color and taste to the culinary use of this vegetable.

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